Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **BOS Terra LP**
PO Box 169
Hobson, MT 59452-0169

2. Type of action: **Beneficial Water Use Permit Application 41S 30065060**

3. Water source name: **Groundwater**

4. Location affected by project: **Section 9 T14N R15E (Judith Basin County)**

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

The Applicant proposes to divert groundwater from two wells completed in the Kootenai Formation and located approximately 2 miles southeast of Hobson, Montana in Judith Basin County. The requested appropriation is 150 gallons per minute (GPM) up to a volume of 193.7 acre-feet (AF) per year, to be used for domestic, stock and commercial purposes. The volume of water associated with each purpose is as follows: 1) domestic (1 home) is 1.6 AF; 2) stock is 191.5 AF; and commercial (sale barn & office) is 0.6 AF. The East Well, a 1548-foot deep well, has a 10-inch casing and is located in the NESENE of Section 9 T14N R15E. The West Well, a 1580-foot deep well, has a 7-inch casing and is located in the SWNWNE of Section 9 T14N R15E. The appropriator considers the East Well as the primary production well for this project. The place of use for all three purposes is located within the NE quarter Section 9 T14N R15E and appropriations will occur year-around.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Dept. of Environmental Quality Website - TMDL 303d listing
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper
Montana Fish, Wildlife & Parks – MFISH Website

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: **No Significant Impact**

The source of supply for this proposed appropriation is groundwater from the Kootenai Aquifer.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: **No Significant Impact**

The source of supply for this proposed appropriation is groundwater from the Kootenai Aquifer.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: **Minor Impact**

The proposed groundwater appropriation is from the Kootenai Aquifer at a flow rate of 150 GPM and volume of 193.7 AF per year. The Judith and Missouri Rivers are both considered hydraulically connected to the Kootenai Aquifer on a regional scale and groundwater depletions from this well could eventually affect flows in the lower reaches of the Judith and down gradient areas on the Missouri. The Departments' physical availability vs. legal demands analysis, which includes irrigation return flow, shows water is legally available in all months requested for appropriation. See Preliminary Determination in permit file for more information. No significant impacts to groundwater quantity or quality are anticipated because of this project.

DIVERSION WORKS *- Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **Minor Impact**

Water will be appropriated by two groundwater wells completed into the Kootenai Aquifer at total depths of 1548 and 1580 feet respectively. The West Well (1580') was drilled in

2003 by AK Drilling Inc, a Montana licensed well driller (License No. WWC-604) and had a artesian shut in pressure of 50 psi. The East Well (1548') was drilled in 2011 by Central Drilling Inc, a Montana licensed well driller (License No. WWC-581). A 20 horsepower Grundfos submersible pump will be installed in the East Well and will deliver a flow rate of 150 GPM. The two wells will alternately supply water to eight 3,000-gallon storage tanks. Water will then be distributed from the storage tanks for individual purposes. Both wells will have backflow check valves in the water lines to ensure no contaminated water can return to the well casing or source aquifer. There could be a minor impact to flow in the lower Judith River as a result of groundwater depletions from the Kootenai aquifer, however as stated previously, water is legally available for appropriation in that reach of the river. The diversion works will not have a significant impact to stream channels, barriers, riparian zones, dams or other wells

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species *- Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No Significant Impact**

The Montana National Heritage Program lists one bird and two fish species as Species of Concern and one fish as Potential Species of Concern within Township 14 North Range 15 East. No Plant Species of Concern are listed in the area of interest. The USDI Fish & Wildlife Service Website shows that Judith Basin County has three species listed as proposed species or candidates for the Endangered Species Act; the proposed species is the Wolverine, while the candidate species are the Sprague's Pipit and the Whitebark Pine. This project is not expected to impact any species mentioned above as the project will be located on acreage that has been previously disturbed by past feedlot operations.

Wetlands *- Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact**

The National Wetlands Inventory shows some areas of Freshwater Emergent type wetlands to the north and east of the feedlot. The wetland areas should not be adversely impacted by the project, as all development is to the south and west of these mapped wetland areas. The Montana Department of Environmental Quality (DEQ) regulates Concentrated Animal Feeding Operations (CAFO) based on degradation of water quality. This project is considered a large CAFO; untreated effluent from the feedlot operation will be monitored.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact**

The project does not involve any ponds for beneficial use. As mentioned above, DEQ regulates any waste discharge from the feedlot through their CAFO program.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact**

The predominant soil type under the feedlot is the Judith Gravelly Clay Loam, a well-drained gravelly clay loam that generally has a low available water capacity. This area has been previously used for feedlot operations; impacts to soil quality, stability and moisture content are not expected because of the proposed project.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact**

No new impacts to vegetative cover are expected because of this project. The land involved in this project has been previously utilized for the same purpose proposed in this application, a feedlot. Accumulated cattle feces spread for fertilizer on pasture or other farm ground can cause an infestation of weeds; however, it is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **Minor Impact**

There could be minor impacts to air quality simply based on the odors emitted from the feedlot due to increased animal units serviced by this project. There will no impacts to air quality from the diversion works, the pump in the East Well will be powered by a 20-HP electric motor.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: **No Significant Impact**

Not Applicable – Project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No Significant Impact**

No significant impacts are anticipated. There will be an increase in electrical energy consumption associated with the new well operations.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: **No Significant Impact**

No local environmental plans or goals have been identified.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: **Minor Impact**

The proposed action should not negatively affect recreational activities in the area, with the exception of increased odors from additional cattle being help at the feedlot.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: **No Significant Impact**

No impacts to human health have been identified.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: **No Significant Impact**

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* **None**

(b) *Local and state tax base and tax revenues?* **None**

(c) *Existing land uses?* **None**

(d) *Quantity and distribution of employment?* **None**

(e) *Distribution and density of population and housing?* **None**

(f) *Demands for government services?* **None**

(g) *Industrial and commercial activity?* **None**

(h) *Utilities?* **New well pump will be powered by electric motor**

(i) *Transportation?* **None**

(j) *Safety?* **None**

(k) *Other appropriate social and economic circumstances?* **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts:

Secondary impacts from this project are expected to be minor; there will be year round groundwater depletions to the Kootenai aquifer, and in turn the lower Judith and Missouri Rivers. The Departments' water availability analysis indicates there is water legally available for appropriation in the reach of the Judith River below its confluence with Big Spring Creek, the reach anticipated to be affected by this groundwater project.

As mentioned above, odors from the increased animal units being held at the feedlot may worsen. This is especially true for areas that are typically downwind to the north and east of the feedlot.

Cumulative Impacts:

As more development takes place in the Judith Basin area, there will be increased demands of water for domestic, irrigation, stock, recreation and other uses. This increased demand will eventually have a higher potential for significant impacts to existing water users.

3. *Describe any mitigation/stipulation measures:*

The Department may or may not deem specific conditions necessary to meet the statutory criteria for new permits set forth at § 85-2-311, MCA. These conditions would be required in the Departments' Preliminary Determination, if applicable.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the permit application. This alternative would result in no beneficial use to the Applicant.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative.

2 Comments and Responses

None Received.

3. *Finding:*
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524

Name of person(s) responsible for preparation of EA:

Name: **Douglas Mann**
Title: **Water Resources Specialist**
Date: **5/30/2013**